

REMARKS

These remarks are in response to the Office Action dated April 16, 2003, which has a shortened statutory period for response set to expire July 16, 2003. No extension is required.

Title

The title is objected to as "not descriptive." Applicant is not sure exactly what the Examiner is requiring. Because Applicant cannot discern anything about the original title that is either incorrect or that does not correctly describe the subject invention, Applicant assumes that the Examiner objects that the original title was not specific enough. Therefore, Applicant has amended the title to be more specific to the subject matter of the claimed invention. If the Examiner finds the amended title unacceptable, the Examiner is invited to suggest a new title.

Claims

Claims 1-20 are pending in the above-identified application. Claims 1-20 are rejected over prior art. Claims 1, 5, 7, 8, and 15 are amended. Claims 9 and 16 are canceled. Claims 2-4, 6, 10-14, and 17-20 remain as filed. Reconsideration is requested.

Applicant thanks the Examiner for the clear statement of grounds for rejection of the claims. Before addressing the Examiner's individual grounds for rejection of the claims, Applicant will briefly point out some differences between the cited references and the present invention which Applicant believes to be significant. As the Examiner has recognized, the *Stephenson* and the *Matsukawa et al.* patents pertain to the sort of liquid crystal displays wherein light is projected through from the back. Both of these differ from the subject matter of the present invention in several respects, including but not limited to the following: While a primary purpose of the present invention is to protect semiconductor junctions in the underlying chip from exposure to light, this purpose cannot possibly be an aspect of the cited references. Firstly, there are n and p type semiconductor junctions to be protected from the light in either of the references, as the "see through" type of devices

not relevant

are not so constructed. Secondly, since light is projected through from the back and ambient light enters from the front, it would be futile to try to protect the interior of the device from light entering from either single direction.

Regarding the *Stephenson* reference only, the horizontal traces 16 and vertical traces 28 are not power traces as that term is generally used, and in the sense that it is used in the present application. Rather, they are used to create the fields necessary for the operation of that particular device. As stated at column 5 line 37 of *Stephenson*:

.... the vertical and horizontal first and second conductive traces 16 and 28 are aligned so that when a potential is applied between them, a field is produced which operates upon light modulating material 30 to selectively transmit light so that a display image is produced.

Therefore, the *Stephenson* invention does not perform either of the important functions of the present invention. The traces 16 and 28 are not power traces (nor could they reasonably be modified to be power traces), and they do not protect circuitry thereunder from the intrusion of light.

power
traces
protect

Regarding the *Matsukawa et al.* reference only, it must be noted that this invention pertains to a very large arrangement of separate liquid crystal display devices (for use in a stadium, or the like). The inventive aspect of this invention is that junctions between the display devices are covered by a light guide such that light is transmitted into the junction space to prevent the lattice like appearance which would be created if light were merely blocked from going between the separate display devices.

Regarding both the *Matsukawa et al.* and the *Stephenson* references, NEITHER discloses power traces arrayed in the spaces between elements of the array and NEITHER discloses any sort of means for preventing light from reaching underlying semiconductor junctions. Indeed, Applicant respectfully avers that the only inference that could possibly pertain to the present invention, and which can be drawn from either of these references, is the fact that horizontal and vertical traces between pixel spaces have existed in the prior art. However, Applicant has already recognized in the application that these exist. Indeed, Applicant has disclosed that traces between pixel spaces have existed in the prior art for the purpose of protecting semiconductor junctions thereunder (see the present application page 1, line 29 through page 2, line 5).

An important aspect of the present invention is that the light blocking function can be attained using the power traces, as placed in the inventive manner, thereby neither requiring expensive extra metal layers nor taking up much additional valuable real estate on existing layers. An additional advantage is that the significant width of the light blocking traces actually improves the function of the power traces. In the prior art, designers were forced to compromise between the desire to make the power traces as wide as possible (to increase capacitance as discussed in the disclosure) and the desire to save real estate by making the power traces more narrow. Prior to the present invention, it was not recognized that power traces could be arranged so as to provide power where needed in a practical manner while also accomplishing the light blocking function.

It should be noted that, should it become an issue, it is a strong argument for non-obviousness that:

- 1) placing traces between the pixels is known in the prior art;
- 2) using additional traces to block incoming light in a reflective array is known in the prior art; and
- 3) power traces are necessary in reflective arrays; and yet
- 4) prior to the present invention, practitioners have found it necessary to incur the extra expense and trouble of providing single function light blocking traces.

Regarding Claim Rejections under 35 USC §102:

Applicant has herein amended independent claims 8 and 15 to include the limitation that the traces be power traces. Claims 9 and 16 have been deleted as being redundant in light of the amendments to claims 8 and 15. While Applicant continues to believe that the original language of Claim 1 was sufficient to distinguish the invention over the prior art, Applicant has amended Claim 1 to make the relevant limitation more clear.

The remainder of the Claims rejected under 35 USC §102 should now be allowable as further restrictions to one of the independent Claims 1, 8 or 15.

Regarding Claim Rejections under 35 USC §103:

Applicant respectfully asserts that Stephenson cannot establish a prima facie case of obviousness with respect to any of Claims 1-7, 12 and 18, at least in light of the present amendments, for both of the following reasons:

1) The stated grounds for rejection depend upon the Examiner's assertion that Stephenson discloses POWER traces between the elements. As discussed briefly above, the relevant traces of the *Stephenson* device are provided to set up an electrical field. For the record, the present application uses the term "power traces" to refer to traces which are provided to supply power (DC Power) to the various components (semiconductor junctions) on the chip. Applicant believes that this is the generally accepted meaning of the term.

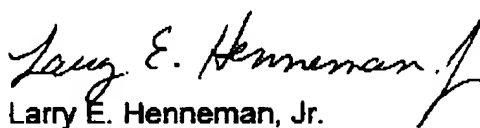
2) EVEN IF the cited art were to have disclosed structure identical to the claimed invention in all other respects (which Applicant avers has not, as discussed above), it would not be obvious to apply that structure in order to protect the underlying circuitry in a reflective LCD array. While the active circuitry in the sort of array to which the *Stephenson* invention applies must necessarily be somewhere other than behind the liquid crystal layer (because the device must be transparent and also because there would be no way to prevent light from reaching the semiconductor junctions), in a reflective LCD array the circuitry is, indeed, so placed. Therefore, even if the prior art were to have anticipated the present invention in all other respects, there is no suggestion in the prior art to apply the cited structure to a reflective LCD array for the purpose of protecting the circuitry under the mirrors.

SUMMARY

Claims 9 and 16 have been canceled. Claims 1 through 8, 10 through 15, and 17 through 20 remain in this application. Independent Claims 1, 8 and 15 have been amended. The remaining dependant Claims should now be allowable as further limitations on the independent Claims 1, 8 and 15. Claims 5 and 7 have been amended to make the language more clear. It is now thought that this application is in complete condition for allowance, and such action is respectfully requested. Applicant urges the Examiner to call Applicant's undersigned counsel should there be any remaining issues.

Respectfully submitted,

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CERTIFICATE OF FACSIMILE TRANSMISSION (37 CFR 1.8(a))

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being transmitted via facsimile, on the date shown below, to:
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